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Autonomic Recovery, Reserve and Breakthrough- An 18-Year Longitudinal Perspective on Multifactorial Secondary Autonomic Dysfunction, Selective Recovery, Postoperative Reserve, Breakthrough and Re-Stabilisation

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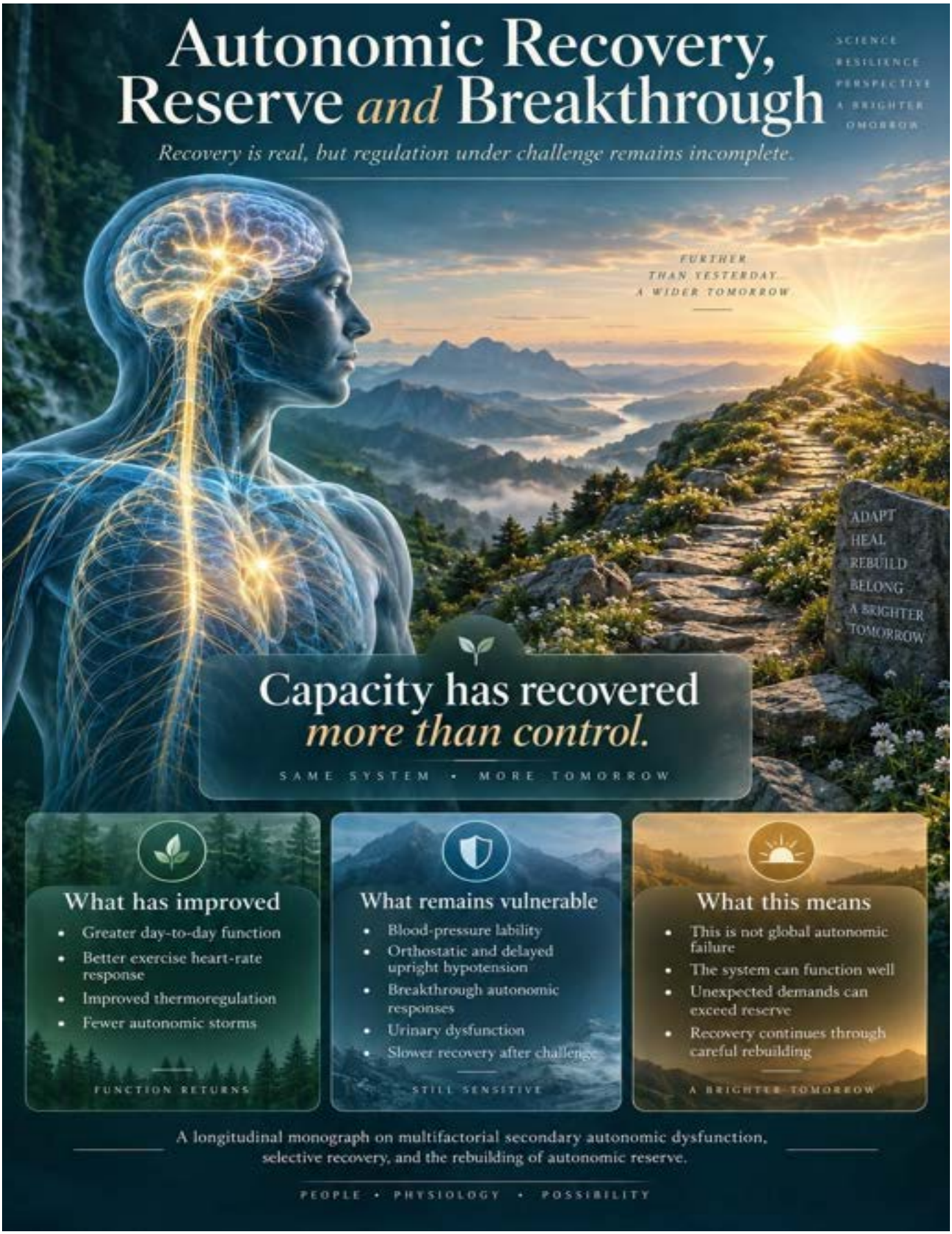
Abstract

Background: *Substantial functional recovery from autonomic dysfunction can coexist with persistent limits in cardiovascular regulation, physiological reserve and recovery from unexpected challenge. This autobiographical longitudinal perspective examines the course from prolonged multisystem dysregulation to selective recovery, then considers how surgery or other systemic stress may temporarily reduce accessible reserve and how that reserve may subsequently reconstitute.*

Case trajectory: *The course began in 2008–2009 with a probable post-viral and cardiovascular initiating phase, followed by years of orthostatic vulnerability and increasing cardiac burden. On 15 October 2021, an LVOT PVC ablation was complicated by cardiac tamponade, emergency sternotomy, cardiopulmonary bypass and repair. The broadest dysregulation followed in 2022–2023, including major blood-pressure lability, orthostatic hypotension, hypertensive surges, impaired cardiovascular adaptation, thermoregulatory disturbance, gastrointestinal dysfunction and, later, prominent urinary dysfunction.*

Recovery and breakthrough: *During 2024–2026, autonomic storms diminished, heart-rate response to activity became more appropriate, thermoregulation became more reliable, and ordinary cognitive, occupational and physical activity became increasingly sustainable. Recovery was selective rather than complete. Marked positional blood-pressure changes, delayed deterioration during sustained upright activity, continuing urinary dysfunction and breakthrough responses under emotional, thermal or cumulative load remained.*

Interpretation: *Approximately two weeks after general surgery, clustered autonomic lability from 11 to 13 September 2026 and a subsequent physiological "brick wall" suggested temporary exhaustion of accessible reserve. By late 14 September, physical, mental and emotional function had improved markedly; two minor emotional breakthrough events occurred but were contained without escalation. These observations support a dynamic, state-dependent reserve model in which postoperative or other systemic load may temporarily narrow the operating margin without proving new autonomic injury. Improvement may be expressed not only as fewer breakthroughs, but also as smaller, better-contained and more rapidly terminated responses.*


Autonomic Recovery, Reserve and Breakthrough
SCIENCE
RESILIENCE
PERSPECTIVE
A BRIGHTER TOMORROW
Recovery is real, but regulation under challenge remains incomplete.
FURTHER THAN YESTERDAY... A WIDER TOMORROW
ADAPT
HEAL
REBUILD
BELONG
A BRIGHTER TOMORROW
Capacity has recovered more than control.
SAME SYSTEM • MORE TOMORROW
What has improved
Greater day-to-day function
Better exercise heart-rate response
Improved thermoregulation
Fewer autonomic storms
FUNCTION RETURNS
What remains vulnerable
Blood-pressure lability
Orthostatic and delayed upright hypotension
Breakthrough autonomic responses
Urinary dysfunction
Slower recovery after challenge
STILL SENSITIVE
What this means
This is not global autonomic failure
The system can function well
Unexpected demands can exceed reserve
Recovery continues through careful rebuilding
A BRIGHTER TOMORROW
A longitudinal monograph on multifactorial secondary autonomic dysfunction, selective recovery, and the rebuilding of autonomic reserve.
PEOPLE • PHYSIOLOGY • POSSIBILITY

Central thesis

Recovery is real, but regulation under challenge remains incomplete. Capacity has recovered more than control; accessible reserve can be temporarily drawn down by postoperative or other systemic load, then reconstitute as demand falls. Progress is shown not only by fewer breakthroughs, but by smaller, better-contained and more rapidly terminated responses.

1. Capacity Has Recovered More Than Control

The central pattern is not one of continuing global failure. The system can again generate substantial physical, cognitive and autonomic output, but it does not always regulate that output proportionately when demand becomes upright, prolonged, emotional, thermal, postoperative or cumulative. Recovery is therefore best understood as a widening of usable function with a still-limited margin of control.

2. What has Improved?

Autonomic storms have diminished; heart-rate response to activity has become more appropriate; thermoregulation is more reliable; recumbent exercise can be sustained; and ordinary cognitive, occupational and physical activity has become increasingly possible. After the September 2026 breakthrough, physical, mental and emotional function improved over several days, and two later emotional triggers were contained without escalation. These changes support genuine recovery of capacity, resilience and response termination.

3. What Remains Vulnerable?

Cardiovascular regulation remains the clearest residual weakness. Marked positional blood-pressure change, orthostatic hypotension, hypertensive surges, delayed light-headedness, visual narrowing, gait dyscontrol and near-falls continue to emerge during sustained upright activity. Urinary dysfunction also persists. Emotional, thermal, postoperative and accumulated demands can still produce disproportionate or cross-domain breakthrough responses, particularly when available reserve has already been reduced.

4. What this means

Functional recovery should not be equated with complete restoration of autonomic control. Capacity describes what the system can do; control describes how accurately, proportionately and sustainably it regulates that activity under challenge. The remaining problem is increasingly threshold-dependent: ordinary function may be well supported until combined demand exceeds the accessible reserve. Progress should therefore be judged not only by fewer symptoms, but by a higher challenge threshold, smaller responses, less propagation between systems, faster termination, shorter recovery and preservation of safety and function.

5. Scope and Central Argument

This paper examines the architecture of recovery rather than treating each symptom as an isolated event. It brings orthostatic regulation, cardiovascular buffering, emotional-autonomic activation, thermoregulation, sudomotor function, bladder and bowel dysfunction, gait stability, fatigue, postoperative physiological load, recovery time and re-stabilisation into one longitudinal account. Here, autonomic reserve means the changing margin between current physiological demand and the regulatory capacity available to meet it; it is an explanatory construct, not a directly measured biomarker. That margin may narrow under cumulative load and expand again during recovery.

6. Theoretical Framework

6.1. Autonomic Regulation as Distributed Homeostatic Control

The autonomic nervous system is a distributed control network rather than a single on-or-off mechanism. Sympathetic, parasympathetic and enteric pathways coordinate cardiovascular, thermoregulatory, gastrointestinal, urinary and other functions while adapting internal physiology to external demands. Because these pathways differ in anatomy, effector organs, feedback loops and time constants, disturbance and recovery need not be uniform across domains. A person may therefore regain useful exercise, cognitive or thermoregulatory capacity while retaining impaired blood-pressure buffering, urinary dysfunction or abnormal responses to combined stressors [1,2]. This architecture supports the paper's distinction between recovered capacity and incompletely recovered control.

6.2. Baroreflex Buffering, Orthostatic Stress and Cerebral Perfusion

Standing transfers blood toward the dependent venous circulation. Maintenance of arterial pressure depends on rapid baroreflex-mediated vasoconstriction, preservation of venous return, appropriate heart-rate adjustment and effective skeletal-muscle pumping. When these responses are delayed, insufficient or poorly coordinated, orthostatic hypotension and presyncope can occur; the clinical consequences include falls, syncope, cognitive impairment and reduced quality of life [3–5]. The observed combination of marked positional pressure change, delayed deterioration during sustained walking and relative preservation of recumbent cycling is therefore physiologically compatible

with an upright haemodynamic constraint. It does not, by itself, establish neurogenic orthostatic hypotension, afferent baroreflex failure or any other specific diagnosis. Cerebral blood flow adds an important qualification. Upright symptoms may reflect impaired cerebral perfusion even when intermittent arm-cuff blood pressure and heart rate do not fully capture the haemodynamic change; conversely, symptoms alone cannot prove cerebral hypoperfusion [6,7]. The light-headedness, visual narrowing and gait dyscontrol reported here therefore identify a clinically important presyncopal phenotype and fall risk, but direct cerebral-flow measurements would be required to attribute individual episodes to cerebral under-perfusion.

6.3. Lability, Salience and Buffered Response

Arterial baroreflexes normally buffer excessive rises and falls in pressure. Established baroreflex failure syndromes can produce extreme blood-pressure lability, diaphoresis and exaggerated pressor responses to mental or physical stress [8,9]. However, their characteristic causes and formal diagnostic findings are not demonstrated in this account. Emotional salience is nevertheless a legitimate autonomic input: experimental literature shows that emotional states recruit patterned peripheral autonomic responses rather than a purely disembodied psychological event [10]. The relevant hypothesis here is therefore narrower than a diagnosis of baroreflex failure: residual buffering may permit occasional responses that are disproportionate to the trigger, cross into thermoregulatory or cardiovascular domains, or take longer than expected to terminate.

6.4. Postoperative Load and State-Dependent Reserve

Surgery and anaesthesia engage multiple systems simultaneously: tissue injury and inflammation, sympathetic–parasympathetic rebalancing, pain, sleep disruption, altered activity, volume shifts and metabolic demand. Heart-rate variability studies indicate that autonomic state before and after surgery is associated with perioperative risk and recovery, although methods and findings remain heterogeneous [11–13]. After cardiopulmonary bypass, vascular dysregulation, inflammatory activation and impaired baroreflex sensitivity provide additional plausible routes through which a major haemodynamic insult could interact with pre-existing vulnerability [14,15]. These findings do not demonstrate the mechanism operating in this individual case. They support only the more conservative proposition that postoperative demand may temporarily reduce the regulatory margin available for subsequent orthostatic, emotional or thermal challenges.

6.5. Reserve, Allostatic Load and Rehabilitation

In this paper, reserve is an operational metaphor for the margin between current demand and the coordinated physiological capacity available to meet it. It is related to, but not identical with, measured autonomic function, cardiovascular fitness or allostatic load. The model predicts that reserve narrows when demands accumulate faster than recovery and widens when demand falls, sleep and volume status improve, inflammation resolves and conditioning is restored. Exercise literature in orthostatic intolerance supports beginning with horizontal or recumbent modalities when upright posture provokes symptoms, then progressing flexibly according to physiological response and tolerance [16–18]. This evidence supports protected conditioning as a general principle, not a personalised prescription or proof that deconditioning caused the disorder.

6.6. Significance of the Recent Breakthrough Events

The August–September 2026 events make the remaining boundary of recovery unusually visible. Prolonged upright walking has produced light-headedness, visual narrowing, gait dyscontrol and near-falls, while recumbent cycling remains comparatively preserved. Approximately two weeks after general surgery, an unexpected text message triggered a rapid fight-or-flight-type response; hours later, generalised nocturnal sweating occurred during a cold night, followed by a sense of having reached a physiological "brick wall". On 13 September the system remained depleted but began to recover. By late 14 September, function had improved substantially, and two minor emotional breakthrough events were contained without propagation. The temporal relationship to surgery makes postoperative recovery an important possible antecedent, but these observations are treated as clues to reserve, buffering, proportionality, coordination, termination and recovery—not as proof of a single causal mechanism.

Read against the theoretical framework, the trajectory is consistent with successive changes in the location of the physiological threshold. The 2008–2021 phase suggests enduring vulnerability with substantial compensation; the 2021 tamponade, sternotomy and cardiopulmonary bypass represent a major haemodynamic and inflammatory insult; the 2022–2023 phase shows the widest cross-domain dysregulation; and the 2024–2026 phase shows recovery of several outputs without equivalent normalisation of upright pressure control. Infection-associated dysautonomia is recognised across several clinical settings, and post-infectious syndromes may involve orthostatic, sudomotor, gastrointestinal and urinary domains [19,20]. That literature makes a post-viral initiating context plausible, but it does not retrospectively establish the cause of the 2008–2009 onset.

The September 2026 sequence is most informative as a within-person change over time. A large response followed by sweating and exhaustion, then substantial improvement over several days and successful containment of two later triggers, is more consistent with a reversible change in accessible regulatory capacity than with a simple linear decline. This remains an inference: medication effects, infection, endocrine or metabolic disturbance, postoperative complications, sleep loss and other causes would need clinical consideration. The evidential value lies in the temporal pattern—challenge, propagation, exhaustion, recovery and improved containment—not in any single symptom.

7. Medical Findings Supporting the Central Thesis

7.1. Convergent rather than Single-Symptom Evidence

The central thesis rests on convergence across time, posture, organ systems and recovery states rather than on any single symptom. The medically important pattern is: longstanding

orthostatic vulnerability; a major haemodynamic and surgical insult; subsequent widening into cardiovascular, thermoregulatory, gastrointestinal and urinary dysregulation; later recovery of several functions; persistence of a narrower set of challenge-dependent deficits; and short-term fluctuation after a new operation. Multisystem autonomic involvement is clinically coherent because autonomic disorders can affect cardiovascular, gastrointestinal, urogenital, sudomotor and thermoregulatory function in differing combinations [1,2]. The findings therefore support a disorder of regulation more strongly than an explanation based on one isolated organ. They do not identify the anatomical site, establish a single aetiology, or exclude concurrent non-autonomic disease.

Finding 1: Persistent Upright Haemodynamic Vulnerability Despite Recovered Work Capacity

The contrast between delayed light-headedness, visual narrowing, gait dyscontrol and near-falls during sustained upright walking, versus comparatively preserved recumbent cycling, is the strongest functional support for the proposition that capacity has recovered more than control. Both activities require muscular work and cardiovascular output, but only upright walking adds a sustained gravitational challenge and a greater requirement for venous return, vasoconstriction and beat-to-beat pressure buffering. Preservation of recumbent exercise therefore argues against a simple global inability to generate effort, while upright deterioration identifies a posture-dependent constraint consistent with orthostatic circulatory failure [3–7]. Because the available record relies substantially on symptoms and intermittent home measurements, the finding supports an orthostatic phenotype but does not determine whether it is neurogenic, volume-related, medication-related, cardiac, vascular or mixed.

Finding 2: Lability Indicates Impaired Buffering rather than Uniformly Low Output

The history includes both orthostatic hypotension and hypertensive surges. This bidirectionality is medically significant: it is more compatible with unstable regulation or impaired buffering than with a fixed, uniformly low-pressure state. Baroreflex systems normally restrain departures in either direction, and impaired buffering can permit exaggerated falls during gravitational stress and excessive rises during arousal or sympathetic activation [8,9]. The pattern therefore supports the paper's language of disproportionality, coordination and termination. It does not establish classical afferent baroreflex failure, for which characteristic causes and formal autonomic testing would be required.

Finding 3: Asynchronous Organ-System Recovery Supports Selective Restitution

During 2022–2023 the disturbance extended beyond blood pressure to thermoregulation, sweating, gastrointestinal function, fatigue and later urinary function. During 2024–2026, storms diminished, exercise heart-rate responsiveness and temperature control improved, and cognitive, occupational and physical participation expanded, while marked positional pressure changes and urinary dysfunction persisted. This divergence is central evidence for selective recovery: improvement occurred in multiple independent outputs, making a static or uniformly progressive model less consistent with the observed course, yet persistence in cardiovascular and urinary domains prevents an assertion of complete recovery. Distributed autonomic pathways can recover at different rates or remain unequally vulnerable [1,2]. The finding supports differential restitution across regulatory territories; it does not prove regeneration, neuroplasticity or the exact mechanism of improvement.

Finding 4: Breakthrough Events Reveal a Threshold, not Necessarily Renewed Injury

The 11–13 September sequence occurred approximately two weeks after general surgery and combined an emotionally triggered fight-or-flight-type response, later generalised sweating, exhaustion and a temporary collapse in usable function. Surgery can alter autonomic balance through pain, sleep disruption, inflammation, metabolic demand, volume shifts and reduced activity; postoperative baroreflex impairment has been associated with poorer cardiovascular performance and morbidity [11–15,21]. In a system with pre-existing orthostatic vulnerability, this provides a medically plausible setting in which a previously tolerable trigger could cross the current regulatory threshold. The temporal association supports postoperative reserve depletion as an antecedent, but cannot distinguish it from medication effects, infection, endocrine or metabolic disturbance, or another postoperative complication.

Finding 5: Recovery Kinetics support a Dynamic Reserve Model

By late 14 September, physical, cognitive and emotional function had improved markedly, and two later emotional triggers produced minor responses that did not propagate. This short-interval reversal is difficult to reconcile with a simple model of fixed new structural loss, although it cannot exclude transient illness or treatment effects. It is more consistent with a state-dependent change in accessible capacity: after a period of lower demand and recovery, the same system tolerated subsequent challenges with lower amplitude, better containment and faster termination. In network physiology, reserve and resilience are inferred from the ability to resist or recover after stress across interacting systems rather than from a single resting measurement [22]. The September sequence therefore provides within-person evidence for dynamic reserve, while remaining observational and unmeasured.

8. Synthesis and Evidentiary Limits

8.1. Overall Inference: The findings justify the central thesis at the level appropriate to a longitudinal single-person perspective: recovery is demonstrated by sustained gains across several domains; incompleteness is demonstrated by persistent posture- and threshold-dependent dysfunction; the distinction between capacity and control is demonstrated by preserved recumbent work alongside impaired upright regulation; and dynamic reserve is supported by postoperative worsening followed by rapid re-stabilisation and improved containment. The evidence does not justify a definitive causal chain from the 2008–2009 illness

or 2021 cardiac catastrophe to every later symptom, nor does it establish a named autonomic disorder. Stronger confirmation would require contemporaneous medication and volume assessment, standardised supine-to-standing or tilt testing with continuous blood pressure, heart-rate response analysis, formal autonomic reflex and sudomotor testing, cerebral-flow assessment during symptoms, and targeted cardiac, endocrine, infectious and urological evaluation.

9. Principal Findings

The medical findings above generate thirteen propositions. The first four concern the observed pattern—real but selective recovery, greater restoration of capacity than control, and threshold dependence. The remaining propositions interpret how reserve changes, how breakthrough events should be read, and how function may be protected while the threshold expands. They are graded in strength: longitudinal observations support the descriptive claims directly, whereas mechanisms such as impaired buffering, postoperative depletion and reconstitution remain physiologically grounded hypotheses.

- Recovery is real. The broad multisystem dysregulation of 2022–2023 has not remained static; several autonomic domains and day-to-day function have improved.
- Recovery is selective rather than uniform. Cardiovascular blood-pressure regulation and urinary function remain more vulnerable than several other previously disturbed systems.
- Capacity has recovered more than control. The system can generate work, cognition, exercise, heart-rate responses and other autonomic outputs; the remaining difficulty is matching those responses precisely to demand.
- Residual dysfunction is increasingly threshold-dependent. The system may compensate well until sustained upright activity, meals, fatigue, heat, emotional activation or stacked demands exceed the available margin.
- Autonomic reserve is dynamic. The threshold can move inward and outward. After accumulated stress, smaller postural or emotional demands may expose vulnerability much earlier; after recovery, similar triggers may be better contained.
- Postoperative recovery can temporarily lower the reserve baseline. Recent surgery may impose continuing neuroendocrine, inflammatory, autonomic, metabolic, sleep and activity-recovery demands after the immediate operative period; in this paper it is treated as a plausible reserve-depleting context, not proof of new permanent autonomic injury.
- Breakthrough events do not automatically equal deterioration. They may mark the present frontier of compensation without proving that prior gains have been lost; after surgery they may also reveal a temporarily narrowed rather than permanently reduced threshold.
- Proportionality, coordination, termination and recovery remain central issues. Responses can sometimes be too large, poorly coordinated across systems, or slower than normal to switch off; improvement may therefore occur even when a trigger still produces a small response.
- Upright haemodynamic safety is a major practical concern. Near-falls, gait disturbance and large postural pressure changes make injury prevention and assessment of sustained upright tolerance immediate priorities, particularly while postoperative reserve is rebuilding.
- Rebuilding should occur below the failure threshold. Protected, recumbent or supported conditioning can preserve capacity while postoperative and autonomic recovery proceed and upright demand is gradually reintroduced.
- The ‘brick wall’ is information. It marks the point at which current demand has exceeded accessible reserve; recent surgery may move that boundary temporarily inward, while progress is shown when the safe boundary moves outward again over time.
- Reserve can reconstitute over days. The 11–13 September flare was followed by marked physical, mental and emotional improvement by late 14 September. This supports a dynamic rather than fixed reserve model while remaining an observational inference rather than a directly measured mechanism.
- Successful containment is itself a recovery marker. Two minor emotional breakthrough events on 14 September did not escalate. Recovery may therefore be expressed as lower response amplitude, better proportionality and containment, faster termination and less cross-domain propagation—not simply the complete absence of triggers.

10. A Longitudinal Explanatory Model

The observed course can be read through the following working sequence. It is a clinical explanatory model, not a claim that every step has been experimentally demonstrated.

Probable post-viral and cardiovascular autonomic vulnerability (2008–2009)
↓
Persistent orthostatic vulnerability with increasing cardiac and arrhythmic burden (2009–2021)
↓
Major haemodynamic and surgical insult — tamponade, sternotomy and cardiopulmonary bypass (15 October 2021)
↓
Maximum multisystem autonomic dysregulation (2022–2023)
↓
Selective spontaneous and treatment-supported recovery (2024–2025)
↓
Substantial functional compensation with persistent cardiovascular vulnerability (2026)
↓
Delayed upright deterioration and fall risk
↓
General surgery during an already reserve-limited phase of recovery (late August 2026)
↓
Postoperative neuroendocrine, inflammatory, autonomic, metabolic and sleep/activity recovery demands reduce the available operating margin

↓

Emotionally and thermoregulatory triggered breakthrough responses during a temporarily narrowed postoperative reserve window

↓

Temporary exhaustion of accessible regulatory reserve — the "brick wall" — interpreted as depletion rather than proof of new injury

↓

Reduced demand and a recovery interval permit early rebuilding of accessible regulatory capacity (13 September 2026)

↓

Marked physical, cognitive and emotional re-stabilisation, with two minor emotional breakthrough events contained without escalation (14 September 2026)

↓

Ongoing postoperative recovery, protected conditioning and gradual re-expansion of function below the failure threshold

↓

Observation of whether the safe physiological boundary remains outward and subsequent challenges are increasingly proportionate, contained and rapidly terminated

11. A Change in the Central Question

The current question is usually Why is the autonomic nervous system failing?

But the question should be: Given the recovery already achieved, how much reserve has returned; which regulatory domains remain vulnerable; what temporarily draws reserve down; how quickly can accessible reserve reconstitute; and do subsequent challenges produce responses of lower amplitude, better containment and faster recovery?

12. Interpretive Boundaries

12.1. A Longitudinal Medical Narrative, not a Laboratory Experiment

This paper combines lived experience, symptom observations, clinical history, home blood-pressure and heart-rate measurements, treatment and surgical history, and published autonomic and perioperative physiology. This evidence supports longitudinal pattern recognition, but it does not directly measure every proposed mechanism. In particular, many breakthrough events were not captured with continuous beat-to-beat pressure, formal baroreflex testing, direct sympathetic recordings, cerebral blood-flow measurement, polysomnography or serial postoperative autonomic biomarkers. Accordingly, mechanistic explanations are presented as interpretations or hypotheses rather than experimentally demonstrated findings.

12.2. Observation, Interpretation and Hypothesis are Deliberately Separated

Objective measurements, subjective experiences and physiological interpretations are related sources of evidence, but they are not interchangeable. Where direct measurement is unavailable, terms such as autonomic reserve, impaired buffering, sympathetic breakthrough, cerebral under-perfusion, temporary reserve exhaustion and reconstitution of accessible reserve are used as working explanatory constructs. They organise the observed pattern and generate testable questions; they do not establish that the proposed mechanism occurred in any individual episode.

12.3. The Paper does not Reduce Emotional Events to either 'Psychological' or 'Physical'

Emotional salience is part of autonomic physiology. This paper therefore treats emotional triggers as genuine physiological inputs without using a single event to establish panic disorder or classical afferent baroreflex failure.

12.4. Alternative Explanations Remain Important

Alternative explanations remain important. Night sweating may reflect fever, infection, metabolic or endocrine disturbance, medication effects, sleep disorders or other causes. Delayed walking-related symptoms remain compatible with a haemodynamic contribution without proving cerebral hypoperfusion. Recent surgery is treated as a plausible reserve-depleting antecedent, supported by perioperative physiology, not as proof of permanent autonomic injury or direct causation of every later breakthrough. Possible gout, if relevant, is treated as a potential additional inflammatory load rather than an explanation for the underlying autonomic disorder.

12.5. The Practical Endpoint is Function and Safety

The practical discussion shifts from explanation to action. The aim is not to normalise every blood-pressure reading or prove the maximum distance that can be walked, but to reduce injury, understand the present threshold, allow postoperative and autonomic recovery to proceed safely, preserve conditioning, avoid unnecessary autonomic loading, optimise the haemodynamic picture clinically and expand safe function progressively.

13. Key Learning

- Recovery should be Judged Across Domains and Over Time. Improvement in exercise tolerance, cognition, thermoregulation and daily function may coexist with persistent cardiovascular or urinary dysfunction. Recovery can therefore be genuine without being complete.
- Capacity and Control are Distinct Clinical Dimensions. The ability to generate work does not guarantee proportional regulation under upright, emotional, thermal or cumulative load. Preserved recumbent exercise alongside impaired upright tolerance is especially informative.
- Breakthrough Events should be Interpreted in Context. A breakthrough may identify the current threshold of compensation rather than prove renewed injury or loss of prior gains. Trigger, posture, accumulated demand, postoperative state, response amplitude, cross-domain spread and recovery time all affect its meaning.
- Accessible Reserve appears State-Dependent. Surgery, inflammation, disrupted sleep, altered activity, pain, volume shifts and emotional load may temporarily narrow the regulatory margin. Improvement after reduced demand supports the possibility that this margin can reconstitute.

- Containment is a Meaningful Marker of Progress. Recovery may be expressed as a higher challenge threshold, a smaller response, less propagation between organ systems, faster termination and a shorter recovery interval—not solely as the complete absence of symptoms.
- Safety remains the Immediate Clinical Priority. Delayed light-headedness, visual narrowing, gait dyscontrol, near-falls and marked positional blood-pressure change require attention even when overall function is improving. Protection from falls and avoidance of repeated excursions beyond the failure threshold take precedence over proving maximal capacity.
- Rehabilitation should Preserve Capacity Without Repeatedly Overwhelming Control. Supported or recumbent conditioning can maintain activity while upright demands are reintroduced progressively and below the current failure threshold, subject to clinical assessment.
- Longitudinal Observation can make the Reserve Hypothesis Testable. Recording the trigger, posture, duration, blood pressure, heart rate, symptom spread, termination and recovery interval may reveal whether the safe physiological boundary is moving outward. Formal autonomic and haemodynamic testing remains necessary to establish mechanism and diagnosis.

14. Conclusion

This longitudinal perspective describes neither complete recovery nor continuing failure. It identifies an intermediate physiological state in which substantial function has returned while regulation remains vulnerable under specific forms of challenge. The strongest support for this conclusion comes from convergence across domains and time: broad cardiovascular, thermoregulatory, gastrointestinal, urinary and functional dysregulation was followed by sustained improvement in several outputs, yet marked positional blood-pressure change, delayed deterioration during upright walking, urinary dysfunction and occasional breakthrough responses persisted. Recovery is therefore real, but selective. The distinction between capacity and control is central. Preserved recumbent cycling, improved heart-rate responsiveness, restored cognitive and occupational activity, and more reliable thermoregulation indicate that the system can again generate substantial work. The continuing difficulty lies in matching cardiovascular and autonomic responses proportionately to demand, especially when posture, duration, emotion, heat, fatigue or cumulative stress increase the regulatory burden. The coexistence of orthostatic falls and hypertensive surges further suggests unstable buffering rather than a simple, uniformly low-output state. In practical terms, the recovered system is capable but not yet consistently well regulated.

The postoperative events of September 2026 refine this interpretation. General surgery occurred during an already reserve-limited phase and was followed, approximately two weeks later, by clustered emotional-autonomic activation, generalised sweating, exhaustion and a temporary loss of usable function. The subsequent improvement over several days, together with containment of two later emotional triggers, argues against interpreting every breakthrough as renewed structural injury or reversal of the longer recovery trajectory. Instead, the sequence is compatible with a temporary narrowing of accessible physiological reserve followed by partial reconstitution as demand diminished and recovery proceeded.

This reserve model remains an explanatory construct rather than a measured biomarker. The observations do not establish a named autonomic disorder, classical baroreflex failure, cerebral hypoperfusion during individual events, or a definitive causal chain from the probable 2008–2009 post-viral phase and the 2021 cardiac catastrophe to every later symptom. Medication effects, volume status, infection, endocrine or metabolic disturbance, sleep disruption, deconditioning and other cardiac, vascular or postoperative factors remain possible contributors. Formal autonomic and haemodynamic testing would be required to determine mechanism and refine diagnosis. Nevertheless, the account yields a clinically useful proposition: autonomic recovery should not be judged solely by symptom absence or resting measurements. It may also be expressed as a higher challenge threshold, greater proportionality of response, less propagation across organ systems, faster termination, shorter recovery time and preservation of function after stress. On this view, the two contained events on 14 September are not trivial exceptions; they are possible markers that the system had begun to regain regulatory margin.

The practical priority is therefore to protect function while testing and gradually extending the safe physiological boundary. Upright haemodynamic risk and near-falls warrant particular attention. Supported or recumbent conditioning may preserve capacity while postoperative recovery continues and upright demand is reintroduced below the failure threshold. Future observation should focus not only on whether an event occurs, but on the trigger, posture, duration, blood-pressure and heart-rate response, cross-domain spread, time to termination and recovery interval. Such data could convert the present reserve model into a more testable account.

The central conclusion is qualified progress. The autonomic system increasingly works, but its regulatory margin remains narrower and more state-dependent than ordinary function may suggest. Breakthrough events identify the current frontier of compensation; they do not automatically negate prior recovery. The continuing objective is not to demand flawless control, but to reduce injury, protect recovered capacity, clarify the residual haemodynamic disorder and progressively enlarge the range of challenges that can be met proportionately, contained effectively and followed by rapid recovery.

Declarations

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Central Hypothesis: Autonomic reserve is proposed as a

dynamic, state-dependent explanatory construct and not as a directly measured biomarker or established diagnostic entity.

Ethics and Consent: This perspective is an autobiographical reflection written by the person whose experience is described. It reports no research participants, intervention, or systematically collected research dataset. The author consents to publication of the personal clinical material included here.

Data Availability: No research dataset was generated or analysed for this perspective. Clinical details are presented selectively and narratively; source medical records are not publicly available.

Generative AI and Assistive Communication Disclosure

ChatGPT (OpenAI) was used as an assistive communication and manuscript-preparation tool to support organisation, sentence construction, spelling, transcription and the conversion of the author's notes, clinical observations, timelines and narrative accounts into academic prose. This use was intended to mitigate substantial dyslexia-related barriers in writing and sequencing, as well as cognitive fatigue. The author supplied and reviewed the substantive content, clinical facts, interpretations, citations, arguments and conclusions; retained full editorial control; and accepts responsibility for the manuscript. The tool did not generate research data, determine findings or qualify for authorship.

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